WHAT IS CLAIMED IS:

1. Rotary actor device for stroke control of a charge-change poppet valve in the cylinder head of an internal combustion engine, comprising a characteristic-[curve] controlled rocker motor as a rotary actor with a rotor operated alternately between terminal rotary abutments, which serves through a shaft with a control disk fixed thereon for rotation, with a section-wise cam profile of the stroke control of the poppet valve urged by a closing spring, the poppet valve furthermore being forced in the opening direction by means of a spring positioned in/on the cylinder head by a spring arm acting with bias on a lever affixed to a shaft, and furthermore the spring serves for the secure contact with abutments affixed to the shaft against the end rotation abutments associated with the closed position or open position of the poppet valve by means of the spring arm acting on the lever affixed to the shaft, with such reduced force that on the one hand the secured starting position up to a predetermined rocking frequency of the shaft or rotor by means of the rocking motor is overcome at relatively low energy input, and on the other hand, beyond the predetermined rocking frequency the starting position secured in each case is overcome by means of a ricochet movement produced by a resilient deformation of one of the colliding corresponding abutments, then an additional reduced energy input is achieved by means of the rotor of the rocking motor which is chosen to be relatively large corresponding to the energy exchange of the closing spring and poppet valve.

2. Device according to claim 1, wherein the rocker motor is supplied with electrical or pneumatic or hydraulic energy.

3. Device according to claim 1, wherein the ricochet movement of corresponding abutments is achieved by means of harder abutting surfaces or by means of a stiff resilient abutment.

4. Device according to claim 3, wherein

- the control disk comprises a half-cam profile which

- has a cam flank configured with a ramp between a cam break-over point and a basic circuit for opening and closing, to which

- the control disk has in a diametrical area a basic circular section which is

- adjoined by an abutment directed substantially radially to the cam break-over area for the end rotary abutment disposed at the motor or cylinder head side.

5. Device according to claim 4, wherein

- the lever turning with the shaft adjacent the control disk bears in its free end area a roller-bearing mounted roller with a rotating guiding roller, by means of which

- the free, biased spring arm made of round wire and carried through a screw thread-like coil above the range of the swing of the lever and positioned in/on the cylinder head, and

- that the control disk lying, when the poppet valve is closed, against the first terminal rotary abutment is secured in this initial position by means of a bent end section of the spring arm urged against the roller.

6. Device according to claim 5, wherein the end section is bent away from the spring arm such that

- a relatively small force component acting in the opening direction of the poppet valve acts against the roller.

7. Device according to claim 5, wherein

- the end section is further bent away from the spring arm of the spring such that

- in the opening stroke of the poppet valve achieved in the second end rotary abutment a torque approaching zero is applied to the rotor of the rocking motor.

8. Device according to claim 3, wherein

- the first end rotary abutment formed from a flat spring serves as a stop abutment when the internal combustion engine is not running, and that when the internal combustion engine is running, up to a predetermined rocking frequency in the range of the first starting position of the control disk, a dynamic starting positioning with a roller abutting against

the end section of the spring arm is brought about by means of an electrical rocking stepper motor provided as rotary actor.

9. Device according to claim 3, wherein

- the end section of the spring arm of the spring bears at its free end a resilient abutment hook as a second end rotary abutment limiting the opening stroke of the poppet valve in cooperation with the roller, and

- wherein the control disk has in the corresponding cam break-over point in some cases an arc coaxial with the shaft.

10. Device according to claim 8, wherein

- the rocker stepper motor performing alternating rotational movements by means of an actuator for the achievement of a variable stroke of the poppet valve can be driven in a micro-step operation at least in the valve opening direction.

11. Device according to claim 4, wherein

- the control disk cooperates with an intermediate knuckle arm and

- wherein the intermediate knuckle arm is disposed supported against the cylinder head through a hydraulic valve play compensating element (HVA 24).

12. Device according to claim 8, wherein a rocking stepper motor serves as a rotary actor for a plurality of similar tappet valves of a cylinder of the internal combustion engine.

13. Device according to claim 10, wherein, for partial strokes of the poppet valve 2 dependent upon the working point, the bias force of the spring arm 10 acting on the lever is controllingly variable by means of change of the position of the spring arm relative to the cylinder head.

14. Device according to claim 4, wherein

- a toggle lever and/or hydraulic valve lifter serves as an additional transfer element and in some cases combined with a hydraulic valve play equalization element (HVA).

15. A rotary actor device for stroke control of a charge-change poppet valve in a cylinder head of an internal combustion engine, the device comprising:

a rocker motor having a rotor that is rotatable alternately between two terminal positions defined by two terminal abutments and is connected to two abutments that contact the terminal abutments when the rotor is at the terminal positions, and wherein when the rotor is at the terminal positions, the poppet valve is at the closed and open positions;

a control disk connected to the rotor and having a section-wise cam profile for controlling the stroke of the poppet valve;

a closing spring urging the poppet valve against the cam profile in the direction of the poppet valve's closing position;

an opening spring urging the poppet valve in the poppet valve's opening direction;

a lever connected to the control disk, wherein the opening spring acts on the lever so that when the rotor is at the terminal abutments, the opening spring urges the rotor against the terminal abutments with such a reduced force that the terminal positions up to a predetermined rocking frequency of the rotor are overcome at a relatively low energy input, and beyond the predetermined rocking frequency the terminal positions are overcome by a ricochet movement produced by a resilient deformation of one of the two terminal abutments and the two abutments connected to the rotor, and wherein an additional reduced energy input is achieved by the rotor of the rocking motor which is relatively large corresponding to the energy exchange of the closing spring and poppet valve.

16. The device according to claim 15, wherein the rocker motor includes an electrical, pneumatic or hydraulic motor.

17. The device according to claim 15, wherein the ricochet movement of the abutments is achieved by harder abutting surfaces or by a stiff resilient abutment.

18. The device according to claim 17, wherein the control disk comprises a half-cam profile which has a cam flank configured with a ramp between a cam break-over point and a basic circuit for opening and closing, to which the control disk has in a diametrical area a basic circular section which is adjoined by one of the abutments that is connected to the rotor and

directed substantially radially to a cam break-over area for one of the rotary abutments disposed at the motor side.

19. The device according to claim 18, wherein the opening spring has a spring arm, wherein the lever turning with the rotor adjacent the control disk bears in its free end a roller-bearing roller with a rotating guiding roller, by which the spring arm made of round wire and carried through a screw thread-like coil above the range of the swing of the lever, and wherein the control disk lying, when the poppet valve is closed, against one of the terminal abutments is secured in this initial position by a bent end section of the spring arm urged against the roller.

20. The device according to claim 19, wherein the bent end section is bent away from the spring arm such that a relatively small force component acting in the opening direction of the poppet valve acts against the roller.

21. The device according to claim 19, wherein the bent end section is further bent away from the spring arm of the spring such that in the opening stroke of the poppet valve achieved in the other rotary abutment a torque approaching zero is applied to the rotor of the rocking motor.

22. The device according to claim 19, wherein one of the terminal abutments formed from a flat spring serves as a stop abutment when the internal combustion engine is not running, and wherein when the internal combustion engine is running, up to the predetermined rocking frequency in the range of one of the terminal positions, a dynamic starting positioning with a roller abutting against the end section of the spring arm is brought about by the rocker motor that is an electrical rocking stepper motor.

23. The device according to claim 19, wherein the end section of the spring arm of the spring bears at its free end a resilient abutment hook as a second end rotary abutment limiting the opening stroke of the poppet valve in cooperation with the roller, and wherein the control disk has in the corresponding cam break-over point in some cases an arc coaxial with the shaft.

24. The device according to claim 22, wherein the rocker stepper motor for the achievement of a variable stroke of the poppet valve can be driven in a micro-step operation at least in the valve opening direction.

25. The device according to claim 18, wherein the control disk cooperates with an intermediate knuckle arm and wherein the intermediate knuckle arm is disposed supported against the cylinder head through a hydraulic valve play compensating element (HVA 24).

26. The device according to claim 22, wherein a rocking stepper motor serves as a rotary actor for a plurality of similar tappet valves of a cylinder of the internal combustion engine.

27. The device according to claim 24, wherein, for partial strokes of the poppet valve 2 dependent upon the working point, the bias force of the spring arm 10 acting on the lever is controllingly variable by means of change of the position of the spring arm relative to the cylinder head.

28. The device according to claim 18, wherein a toggle lever and/or hydraulic valve lifter serves as an additional transfer element and in some cases combined with a hydraulic valve play equalization element (HVA).